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Rubus of eastern North America

W. H. BLANCHARD

In the July number of the American Botanist for 1904, beginning an article on blackberries, I wrote: "Nearly all of our botanists have avoided blackberries and are still doing so. They prefer to take up lines in which they can feel sure that everything is settled. Very little material has been collected and very little persistent, patient field work has been done. The writer has dropped the popular work that so many others are following and is making a determined, continuous, and tireless search in this neglected field." This search has continued and is now ten years old. I have searched throughout the whole of the eastern part of the United States and Canada as far west as blackberries are found, or from St. John's, Newfoundland, to Lake Winnipeg in Manitoba, and south to Florida, missing none of the states or provinces except West Virginia, South Dakota, Nebraska, Texas, Louisiana, Mississippi, and South Carolina, making the search as complete as my time and limited means would allow.

I could get little positive information from others when I got to a section, and was obliged to search out everything myself personally and generally alone. Some aid was obtained by visiting herbaria, and all such were visited if *Rubus* was known or suspected to be found, and botanists were asked for information wherever I went. The information thus gained as to stations for *Rubus* was of great value, enabling me to learn in hours what otherwise would have taken me days to have learned without it. As a result of this protracted, arduous, and expensive undertaking, I venture to say and say with confidence, that eight species include the great bulk of our blackberries, perhaps ninety per cent of them.

They occupy longitudinal belts extending across the territory under consideration, and are therefore justly distinguishable into northern and southern kinds, and not as has been suspected into eastern and western. This belting in range is broken in the case

of three species, when northern kinds follow down the Alleghany Mountains. They may be divided into three classes and with each species is given its general range.

HIGH BLACKBERRIES

RUBUS CANADENSIS L. Newfoundland to Manitoba.

RUBUS ALLEGHANIENSIS Porter. Prince Edward Island to Minnesota.

RUBUS ANDREWSIANUS Bld. Southeastern Massachusetts to Oklahoma.

DEWBERRIES

RUBUS HISPIDUS L. Prince Edward Island to Minnesota.

RUBUS PROCUMBENS Muhl. Portland, Maine, to Oklahoma.

RUBUS TRIVIALIS Michx. Southeastern Virginia to Texas.

HALF HIGHS

RUBUS RECURVANS Bld. Maine to Iowa.

RUBUS CUNEIFOLIUS Pursh. Connecticut to Texas.

RUBUS CANADENSIS L.

R. Millspaughii Britton.

The only description of this species that is sufficiently complete to be of much value is the one from my pen published in *Rhodora* 10: 117. 1908, and no figure of it that has yet appeared gives any clear conception of the species, though a colored illustration was given in Curtis's Botanical Magazine for July 1909. In fact no single figure can well illustrate a blackberry, unless it cover a large folio page and is drawn to a rather small scale so as to give an idea of the whole plant or a considerable part of it; and even then it needs an accompanying set of figures showing natural size. The southern limit of this species is near the northern boundary of Massachusetts, or near the 43d parallel of north latitude, though it crosses Wisconsin and Michigan at a higher latitude; and it follows down the Alleghany Mountains into North Carolina and Tennessee. It is exactly the same plant in the west as in the east. I collected twice in the same season in the northern part of the southern peninsula of Michigan, when in flower and in fruit, and

these plants and those in Vermont and New Hampshire are as near alike as those in New Hampshire are like those in Vermont. Equally typical are the sun-exposed, scattered plants on the Black Mountains in North Carolina. I visited the station from which Mr. F. E. Boynton collected the material which has been distributed from Biltmore Herbarium as *R. Millspaughii* Britton. It grows in the shade, in a rather moist place, well up on the side of Mount Pisgah, and its rank growth is not unlike that of *R. canadensis* in a moist shady place in Vermont. Though considerably beyond the flowering season, there were some fresh flowers at the spring on the top of Mt. Mitchell, the goal of mountain climbers in the South. Shaded by spruces, balsams, and yellow oaks, the resemblance to a Vermont station was nearly perfect. I did not see the grown fruit, but from specimens I have seen, some of it, at least, seems to be long and slender like that of *R. alleghaniensis* Porter, and such may be considered a weak variety which I here announce as ***Rubus canadensis Millspaughii*** (Britton).

RUBUS ALLEGHANIENSIS Porter

R. nigrobaccus Bailey.

Until quite recently all forms of high blackberries were included under one name, and it was supposed that their variations were not sufficiently great to make it necessary to segregate anything and no one studied them. Occasionally a collector would label a specimen that seemed different from those common in his locality *R. frondosus* Bigelow, or var. *frondosus*, and rarely some one would write on his label *R. suberectus* Hooker. For many years our high blackberries were called *R. fruticosus* L., since Linnaeus had a reference to Gronovius, who considered the bush blackberries sent him by Clayton to be the same as the European brambles, all of which Linnaeus placed in one species. Those were happy days! No germ of the coming rubiologist had appeared.

Marshall and Manasseh Cutler described the high blackberry as *R. fruticosus* in 1785, and Walter, in 1788, described it under the same name. Willdenow, in 1799, continued the reference to Gronovius in his description of *R. fruticosus* and he copied Aiton's *R. villosus* verbatim. (See under *R. procumbens*.) Michaux, in

1803, described in rather ambiguous terms *R. villosus* Ait., which as an American plant had been described in still more ambiguous terms. Michaux, or the person who wrote the description, for Michaux probably neither wrote the description nor was consulted as to it, gave as its habitat "in utraque Carolina," and incorporated into his description the queried reference "*R. hispidus?* Walt." This uncertainty was caused by Michaux's mistake in giving *R. fruticosus* Walter as a synonym for *R. trivialis* just described, and then it followed that *R. hispidus* Walter would be the same as *R. villosus* of Michaux. Michaux had transposed Walter's names.

Muhlenberg, though he had in 1791 used the name *R. fruticosus* L. for the high blackberry, yet in 1813 called it *R. villosus* Ait., evidently thus interpreting Michaux. He called it also the "blackberry." Bigelow, in 1814, perhaps following Muhlenberg as he certainly had Muhlenberg's 1813 catalogue before him, also called it *R. villosus* and described it in no uncertain language. Pursh also, in 1814, who certainly had not seen Muhlenberg's catalogue, describes *R. villosus* Ait., combining in his description the language of both Michaux and Aiton, saying it was common from New England to Carolina in old fields and commons and was known as "blackberries," while under the name of *R. trivialis* Michx. he described a plant known as "dewberries." Barton, in 1815, must have followed Michaux, though possibly because Muhlenberg had led the way, as he used part of Michaux's description of *R. villosus* including Michaux's queried reference "*R. hispidus?* Walt.," and he calls it the "high blackberry."

After the publication of the works of this quartet of botanists, 1813 to 1815, *Rubus villosus* Ait. was the settled name for all high blackberries, though Bigelow published his unrecognized *R. frondosus* in 1824. But Prof. T. C. Porter discovered in 1890 that the blackberry on the Pennsylvania hills (they call them mountains), was not the same blackberry as that on the lower Delaware. So he named it var. *montanus*, and later, in 1894, he raised it to a species, but *montanus* being a homonym, in 1896 he renamed it *Rubus alleghaniensis*. Meanwhile, in 1891, Dr. C. F. Millspaugh made a find on the mountains of West Virginia, which Dr. N. L. Britton named *Rubus Millspaughii*. So these names began to be

used. A revolution in our *Rubi* was at hand, and Prof. L. H. Bailey ascertained that *R. Millspaughii* was a common northern species named *R. canadensis* by Linnaeus in 1753; that the southern blackberry was not the same as the northern; and, to cap the climax, that *R. villosus* Ait. was a dewberry. This he announced in 1898 in his *Evolution of our Native Fruits*, which is the only compilation and the first exposition of the *Rubi* of our area. He has given a later view in the *Cyclopaedia of American Horticulture*, 1902. These articles are illustrated by many useful and some invaluable figures.

Professor Bailey, thinking *R. alleghaniensis* to be different from the common northern high blackberry, named the latter *Rubus nigrobaccus*, but he was mistaken and his name is a synonym. His idea of the other high blackberries was not entirely correct; and under the name of *Rubus argutus* Link—the original specimens of which it is impossible to place with certainty, but which are probably from an intergrade between *R. alleghaniensis* and *R. Andrewsianus*, since they have some of the distinguishing characters of each and certainly lack some of the most distinguishing ones of *R. Andrewsianus*—he lumped together *R. suberectus* Hooker and *R. frondosus* Bigelow, as well as most of the odd things of both the north and the south, giving its range as “from Lake Superior and New Brunswick to Florida, Kansas, Oklahoma and Mississippi.”

Rubus alleghaniensis is not found as far north as *R. canadensis*, and near its extreme northern limits has very poor fruit, maturing but few drupelets. Some of the extreme northern stations where I have collected it are Summerside, Prince Edward Island; Frederickton, New Brunswick; Moosehead Lake, Maine; the Ottawa Valley, Canada; the northern peninsula of Michigan, and Grand Rapids, Mich. This is near the 46th parallel, and a straight line from Prince Edward Island to Lake Itaska is approximately the northern boundary of the range of this species, while its southern boundary is not far from Mason and Dixon's Line, or approximately the 40th parallel of north latitude. Some of the extreme southern points at which I have collected it are Westchester, near Philadelphia; Bloomington, Indiana; the bluffs in the northern part of St. Louis, Missouri; Wolf Creek, Tennessee; and Asheville, North Carolina. It follows down the Alleghanies at a much lower

altitude than *R. canadensis*. No satisfactory figure of this species has yet been published. The best is in the fourth volume of the Cyclopaedia of American Horticulture. The figure of *R. alleghaniensis* in Britton and Brown's Illustrated Flora is of this species, also. Bigelow figured it in his Medical Botany in 1818. No complete description of it has yet been published, but Bailey, Porter, and Bigelow have pointed out some of its characters, and some are noticed in *Rhodora* 8: 169, 217. 1906.

RUBUS ANDREWSIANUS Blanchard

This species was described by Marshall and by Walter as *R. fruticosus*, and by Elliott and by Barton as *R. villosus*. It has been figured in his Vegetable Materia Medica by Barton, in the Illustrated Flora under the same name, and fully described by me in *Rhodora* 8: 17. 1906. See also under *R. alleghaniensis* in this paper. Its northern limits are Boston, Massachusetts; Providence, Rhode Island; Granby, Connecticut, on the Massachusetts line; Easton, Pennsylvania; Mansfield, 30 miles north of Columbus, Ohio; Indianapolis, Indiana; St. Charles, Missouri; and Topeka, Kansas. I have personally collected it in those places. Its southern limit is the Atlantic Ocean and the Gulf of Mexico. Probably two thirds of Rhode Island and Connecticut, four fifths of Pennsylvania, and one third of Ohio, Indiana, and Illinois are not included in the area where this species grows. In the neighborhood of Boston this species is not normal, and in a strip bordering the Gulf of Mexico, on the evidence of specimens I have seen and from a careful examination from Pensacola, Florida, to the Alabama line, it is much more slender than this stout, rugged species usually is.

RUBUS HISPIDUS L.

This species was described for the first time by Linnaeus in 1753. Michaux named it *R. obovalis*, Bigelow named it *R. semper-virens*, and Hooker, claiming Michaux's name to be senseless, purposely renamed it *R. obovatus*. This list of Latin adjectives pretty well covers its characters. Barton called it *R. flagellaris* Willd. and he knew of a single station in the neighborhood of Philadelphia. No extended description appeared before 1906, when my own was published in *Rhodora* 8: 212. Its range is

nearly the same as that of *R. alleghaniensis*. I have searched carefully for it in New England and the maritime provinces of Canada, but have not given it much attention in the west and south. I have collected it near Washington in Virginia, at Asheville, North Carolina, near where Michaux collected it, and in Michigan, but I rely mostly on herbarium specimens in fixing its range west of New England. Its slender, slightly hispid form is much more common than the very hispid form, which seems to have been mistaken by some for *R. trivialis* and by others for *R. setosus*. The leaves, if not too badly exposed, remain till the next season's growth is well advanced, and flowering specimens should, if possible, be secured on which some of the leaves remain. Helpful figures are given by both Bailey and Britton.

RUBUS PROCUMBENS Muhlenberg

This is given in Gray's New Manual as *Rubus villosus* Ait. on the opinion of Professor Bailey, who thinks the specimens from which *R. villosus* was described, and which he saw in London, are the same as "our northern dewberry," which, by the way, is as much southern as northern. However, Bailey says it occurs in the south as far as "Florida, Kansas, Oklahoma and Arizona." *R. villosus* was described in Hortus Kewensis, which was a descriptive catalogue of all the plants growing in the Kew Botanic Garden, of which Wm. Aiton was the head. The descriptions were not the work of Aiton, who seems to have been a gardener rather than a botanist and deposited dried specimens in the herbarium of Sir Joseph Banks, but were written in the herbarium by Solander. So Hortus Kewensis is the work of Aiton in the same sense that Michaux's Flora Bor.-Am. is the work of Michaux. The description is so short and poor that nothing can be made of it. This accounts for its so easily deceiving the author of Michaux's Flora and the American botanists. The meaning of the name alone caused them to use it.

It is by no means certain that *R. villosus* is the same as *R. procumbens*. The illustration Bailey has given of the original specimen shows a very different plant from the typical *R. procumbens*.

The name *R. procumbens* was first given in Muhlenberg's Catalogue, but Barton, in 1818, in his Compendium Florae

Philadelphicae, gave a description that answers all requirements of later rules for properly describing a species. Linnaeus included it in *R. caesi* by a reference to Gronovius who thought Clayton's specimens and description (1743) indicated that it was the same as the European dewberry. Marshall, in 1785, described it as *R. hispidus* L., Bigelow described it in 1814 as *R. trivialis* Michx., and so did Torrey in 1834; but when Dr. A. Gray took hold with Torrey they concluded to call it *R. canadensis* L. The name had been in the books for many years. Kalm collected it in Canada. Torrey had used the name in 1824 for the *Rubus* they were about to call *R. triflorus* Rich. (now *R. pubescens* Raf.). This dewberry was evidently not *R. trivialis* Michx. as Torrey had supposed. Here was a *Rubus* that might be the long lost *R. canadensis*. It is nevertheless surprising that Gray should have used this name, since he had seen the original specimens, and in a note to the description in their *Flora of North America* shows how Linnaeus had unwittingly described it as having ten, five, and three leaflets. Having made this correction he seemed to think that *R. canadensis* had been cleared up and was the dewberry under consideration, when, in fact, the specimen did not have the slightest resemblance to it, but was typical *R. canadensis* as we know it. I have seen a photograph of it, which Professor Bailey secured but unfortunately has not used in his books. They passed by the good name given it by Barton and by Muhlenberg. It is more than probable that Gray had forgotten how the original specimen looked. He had seen Aiton's specimen of *R. villosus* too.

So the name Torrey and Gray used held undisputed sway till Bailey explained the mistake and applied the name *R. villosus*. But Dr. P. A. Rydberg, in Britton's *New Manual*, in 1901, restored the name Muhlenberg gave it. The only full description is that by the writer in *Rhodora* 8: 147. 1906. No good figure of it has ever appeared; in fact there are only those given by Bailey and the one in the *Illustrated Flora*.

Its range covers more square miles than any other blackberry in eastern North America. It ranges from the Gulf of Mexico to the southern limit of *R. canadensis* L. To be more specific, its eastern limit is the Kennebec River in Maine, and a line due west from Portland, Maine, or about the 44th parallel, is near

the northern boundary of its range. It undoubtedly occurs in every state east of the Rocky Mountains, with possibly the exception of North Dakota. It is not everywhere equally abundant. In the northern parts of Ohio and Indiana it is scarce, though abundant on the shore of Lake Michigan. It is the same plant wherever found, the same in Boston as in Pensacola, New York as in Oklahoma, Michigan as in Georgia.

RUBUS TRIVIALIS Michaux

Walter, in 1788, apparently described this species as *R. hispidus*; Michaux's name and description appeared in 1803; Elliott, in 1822, also used the name *R. trivialis*, and his description is perhaps the best that has yet appeared. Its range is from southeastern Virginia to Oklahoma and Texas, and forms of it occur in the mountains of New Mexico and Arizona. It is especially abundant in the sandy pine region near the coast, its northern limit being a curved line extending from Norfolk, Virginia, through Raleigh, North Carolina, Columbia, South Carolina, Milledgeville, Georgia; to Fort Smith, Arkansas, and Muscogee and Oklahoma City, Oklahoma. I collected it in the last three places named. It and *R. procumbens* are about equally abundant at Montgomery, Tuskegee, and Opelika, Alabama, but in western Florida *R. trivialis* greatly preponderates. Michaux gave its range as Carolina and Pennsylvania, and this caused botanists to think he included *R. procumbens* in his species. Many have confounded it with *R. hispidus* also. It was figured by Guimpel in 1825, and one of the two original specimens collected by Michaux is shown in the Cyclopaedia of American Horticulture (1902).

RUBUS RECURVANS Blanchard

This species was described by me in *Rhodora* 6: 223. 1904. It had never been recognized as a species though it is very distinct. This is not surprising since several other good species were not recognized till recently. When it was abundant people often called it the "half-high" blackberry as they call *Vaccinium vacillans* the half-high blueberry. When Bailey published *R. villosus* var. *Randii* some botanists used that name for it, but Bailey seems to have considered it to be a blackberry-dewberry

hybrid. His two illustrations on pages 315 and 317 in *Evolution of our Native Fruits*, also reproduced in the *Cyclopaedia of American Horticulture*, are probably of this species. They give but a poor idea of the species, however. The halftone is poorly made from a poor specimen, and the etching is intended to show only the fruit. The characters of this species, in fact, are as good and as constant as those of any other; it is exactly the same in Michigan as in Massachusetts; and it is found at least one hundred miles from any station of the dewberry. Its range is from western Maine to Iowa. It is common or frequent throughout most of New England west of the Kennebec River, and I have collected it in Ottawa, Canada; Plattsburg, Oswego, and Rochester, New York; in many places in and around Ann Arbor and Lansing, Michigan; and at Mason City and Ames, Iowa.

RUBUS CUNEIFOLIUS Pursh

This species was first described by Walter, in his *Flora Caroliniana*, in 1788, as *R. parvifolius*, but his name had already been used and it takes Pursh's more descriptive name, which he gave it in 1814. The description of it given by Pursh was improved on by Elliott in 1822. Its range is from the Connecticut River in Connecticut to the Mississippi River and perhaps beyond. In going south from Louisville, Kentucky, I found it first at Decatur, Alabama. In Florida it seemed to be the common "briar." In some places it seems to intergrade with *R. Andrewsianus*. Suggestive figures are given by Bailey in connection with his writings on *Rubus*.

In addition to these there are some others with a range great enough to be of interest to botanists generally. An important one is

RUBUS FRONDOSUS Bigelow

This species, which I resurrected from seeming oblivion in 1906, is found from Boston to Washington, in a strip bounded by the ocean on one side and a line marked by the following stations on the other side: Clinton, Mass.; Hartford, Conn.; Lancaster, Pa.; and Fairfax, Va. Bigelow described it in 1824. The announcement of the refinding of this lost species and a short

description are in *Rhodora* 8: 217. 1906. The southern form, which is somewhat different from the northern, I described in *Torrey* 7: 55. 1907 as *R. philadelphicus*. I am by no means certain this separation should be given up. *R. frondosus* is abundant in and all around Boston. I collected it also in many other places in central and southeastern Massachusetts, and found it abundant in the vicinity of Providence, Rhode Island. It is scattered over much of Connecticut, is abundant in all directions around Philadelphia, and occurs about Lancaster, Pennsylvania. About Washington as far as Fairfax, Virginia, it was plentiful. Specimens of *R. canadensis* L., especially flowering ones, are found in northern herbaria labeled var. *frondosus*, for Torrey and after him Gray never recognized it as more than a variety of *R. villosus*. The total misconception Gray had of it is shown by the query "Is this *frondosus*?" on a sheet in the Columbia University Herbarium of a leafy-bracted raceme of *R. alleghaniensis*; that is, it is a long, normal raceme except that nearly all of the pedicels are subtended by unifoliate leaves, a form not rare if one is watching for the unusual forms. Beck and Eaton both accepted it as a species, as they made a rule to omit nothing ever proposed.

Then there is an interesting class of blackberries found chiefly and possibly only east of the meridian of Philadelphia, from eastern New York to or nearly to the Gulf of St. Lawrence, of which no mention was made before 1824, when Bigelow published

RUBUS SETOSUS Bigelow

Torrey and Gray accepted this so far as to make it a variety of *R. hispidus* on the strength of two specimens sent by Bigelow, and Beck and Eaton accepted it as a species of course. Since *Rubus* has been examined more carefully, within the last twenty years, the name *R. setosus* has been used as a blanket name for this whole class; but there is such a diversity of forms that the name does not convey a very definite idea. It has been proposed to divide it up sufficiently to make it possible to know by name the principal forms. In the New York State Herbarium at Albany there was (and is) a specimen of *R. hispidus*, not particularly unusual, which Torrey had marked as var. *setosus*; so, when

in 1891 Prof. C. H. Peck found at the base of the Adirondacks a peculiar setose, erect or partly erect blackberry, he gave it a new name, *R. hispidus* var. *suberectus*. In 1901, in Britton's New Manual, Rydberg raised this to specific rank since it differed a good deal from Bigelow's two specimens of *R. setosus*. He could not use Peck's varietal name as it would be a homonym, so he published it as *R. nigricans*, Peck's dewberry. This was the first segregation. This plant is the erect or nearly erect, often erect, 5-foliolate, soft-stemmed, densely soft-bristled form, having abundant glandular hairs, the common form in moist situations at low altitudes, and often in dry places at higher altitudes—the common form in Vermont and New Hampshire. In Connecticut it is found in low places. The type specimen is figured in Bailey's Evolution of Our Native Fruits and in the Illustrated Flora. Another segregate is *R. semisetosus*, published by me in Rhodora 9: 8. 1907. This prefers dry land, has terete, hard stems, is seldom quite erect, and has retrorse, bristle-pointed prickles; it is especially abundant in Connecticut on the sand plains. Still another segregate appears in Rhodora 8: 213. 1906 as *R. hispidus* var. *major*. Some forms of *R. hispidus* are so coarse, so different from the most hispid forms that appeal to one as *R. hispidus*, that a name and a place for them seems desirable.

There is yet another plant having a slight suggestion of this group and very abundant in Vermont, especially in the higher parts, which I named and described in the American Botanist for July 1904, p. 1, as *Rubus vermontanus*. This was mistakenly assumed by the authors of Gray's New Manual to be *R. nigricans* Rydb. There is still left a large amount of this *setosus* aggregate to which to apply the name *R. setosus* after these segregations have been made, especially of the decumbent, soft-bristly, trifoliolate forms.

In Maine and the maritime provinces of Canada there are four species that have a wide range, all of which were described by me in Rhodora in 1906. *Rubus amabilis*, since renamed *Rubus amicalis*, ranges from southwestern Maine to the Gulf of St. Lawrence. While I have not yet found any new stations in Maine, I have collected it in many places in southern New Brunswick and in Nova Scotia, where it is especially abundant in the

Annapolis Valley. It is very constant in form, and I have seen no tendency to vary, which, in an abundant blackberry is very unusual.

Rubus glandicaulis, also very distinct, has a wide range. It is frequent throughout southern Maine as far north as Brownville and Bangor, and in southwestern New Brunswick to Frederickton Junction, and occurs in Nova Scotia. This, or forms close to it, I have collected on Lake Winnepesaukee, New Hampshire, and at Lenoxville, Province of Quebec.

Rubus multiformis is a species that is somewhat variable, and occurs from southwestern Maine to Sydney, Cape Breton Island. Throughout this long stretch it is the only trailing blackberry that you often see except *R. hispidus*. Its shining green 5-foliolate leaves, the leaflets long and very narrow, are very noticeable.

Rubus recurvicaulis ranges from Marblehead, Massachusetts, to Bar Harbor, Maine. On Mt. Desert Island it is very abundant and I collected what is probably this species near Halifax, Nova Scotia. Prof. M. L. Fernald regards this as the true *Rubus Randii* (Bailey) Rydb. in Gray's New Manual. It is impossible to tell, as the original specimens are manifestly aberrant no matter what they are. Nothing matches them and all sorts of odd things have been thrown into *R. Randii* covers. But *R. recurvicaulis* is a very distinct species. I have visited Mr. Rand's stations, using a large scale map on which he marked them and with directions orally and carefully given me, but I found nothing at one station and something very different, but odd, at the other. Unless Mr. Rand himself rediscovers his stations and gets better material, his species cannot be maintained. No *R. recurvicaulis* was found in the neighborhood of his stations though I took much pains to examine. My chief object in spending so much time there (over a week) was to clear up *R. Randii* if possible.

There are undoubtedly many local species of blackberries in our area. Most of them will never be described, or if they are will soon be forgotten. There is a practical as well as scientific side to systematic botany. The world will not bother with an interminable number of species in a genus. The way that Gandoger is ignored and Rafinesque was ridiculed shows it. The number of species in *Aster*, *Crataegus*, *Rosa*, *Rubus*, etc., must have

some limit. Some day a second, perhaps greater Linnaeus, a species and genus smasher will appear who will be idolized in the future as Linnaeus is [?] today.

Of the various species of *Rubus* I have described, according to what has already become known, some will be found to be only local, some will have a limited range, and some as I have already found will have a wide range. Whether the blackberries in our area have been evolved, mutated, or hybridized from one, two, or ten original species is a matter of pure speculation, though interesting and profitable no doubt, but that names are needed for a reasonable number of the common forms is a fact so patent that argument is unnecessary. The attempt to use formulas of pedigree for plant names reminds one of the pre-Linnaean nomenclature. Such a formula as *R. alleghaniensis* $\frac{1}{4} \times R. procumbens$ $\frac{1}{4} \times R. Andrewsianus$ $\frac{1}{2}$, which is one of the simplest, for the name of a common and constant plant is not likely to appeal to most people, though it might be very useful in describing a plant. It is also useful in marking odd specimens in the herbarium, and may well be introduced into floras to a limited extent.

My observations lead me to think that Mr. E. P. Bicknell's *R. Baileyanus* is a shade form of *R. procumbens*, that his *R. Enslenii* is a common sand form of the same species, and, if these two assumed species were transplanted so as to grow under such conditions as typical *R. procumbens* usually has, they would in time return to a form unmistakably that of *R. procumbens*. It is to be hoped he will thus transplant them. If *R. flagellaris* Willd. is an American plant it probably is a form of *R. hispidus*. The figure to which Mr. Bicknell refers does not indicate any remarkable variation from *R. hispidus*. I have never seen a constant intergrade between *R. hispidus* and *R. procumbens*, but I have seen many that were not constant.

I have not seen all of Mr. Ashe's *Rubi* but his *R. Boyntoni* is a good local species, very frequent in much of Buncombe County, North Carolina, as I know from observation. *R. floridus* Tratt. may be a local species, but it cannot have a great range, unless, as I suspect, it is a name given to the terete ends of a form of *R. Andrewsianus* not rare around Philadelphia and Washington. This form has recurving branches which are armed with recurved

prickles, and specimens from different parts of such a plant might easily be mistaken for two species.

On the evidence of some very divergent forms of *R. trivialis* which I saw in Alabama, and from specimens I have seen, some very interesting developments may be expected in Texas, Louisiana, and Mississippi. *R. trivialis* seems to grade into some coarse forms, some of which have a very different form of inflorescence. Robin, in his *Flore Louisianaise*, described two *Rubi* which, he wrote, were abundant in Louisiana, and Rafinesque gave them names. His *R. nitidus* is undoubtedly *R. trivialis*, and his *R. angulatus* ought to be recognized.

WESTMINSTER, VT.